Piezoelectric Filters with an Inductor having a Given Coupling Coefficient

frequencies in the arms of the filter are such that there is one frequency in the stop-band at which voltage-resonance (for low-pass filter) or current-resonance (for high-pass filter) occurs. The characteristic attenuation has three poles (frequencies of infinite attenuation). The dynamic attenuation has an extra pole at a frequency when the impedances of all the filter arms become simultaneously zero or infinite. Formulae for calculation of the values of the elements of both balanced and unbalanced filters, Eqs (1) - (6), were taken from Velikin et al. (Refs 2,3). In the formulae: R_{HOM} - is the nominal impedance of the filter, f_K - is the resonant frequency of the resonators. The initial data is the boundary frequency f_β and the attenuation poles f_∞ , f_∞ , f_∞ and f_4. In filters, with the circuits given in Fig 4a and 5a the calculated value of the coupling coefficient of the inductor windings is of the order of 10%. The construction of the coil is shown in Fig 8. The desired value of the

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SOV/106-58-12-8/13

Piezoelectric Filters with an Inductor having a Given Coupling Coefficient

coupling coefficient is obtained by spacers, and the Q-factor depends on the core material. The author then investigates the temperature dependence of the coupling coefficient.
There are 9 figures and 8 references, 5 of which are Soviet, 2 English and 1 German.

SUBMITTED: December 25, 1957

Card 3/3

GEL'MONT, Z. Ya., Candidate Tech Sci (diss)-- "Investigation of piezoelectric filters for lower and higher frequencies". Leningrad, 1959. 12 pp (Min Communications USSR, Leningrad Electrical Engineering Inst im Prof M. A. Bonch-Bruyevich), 150 copies (KL, No 23, 1959, 165)

89829

S/106/60/000/011/004/010
A055/A033

9,7550

AUTHORS: Velikin, Ya.I., Gel'mont, Z.Ya., and Zelyakh, E.V.

TITLE: A Piezoelectric Band-Elimination Filter Circuit.

PERIODICAL: Elektrosvyaz', 1960, No.11, pp. 34-39

TEXT: The band-elimination quartz filters have usually a comparatively low impedance in the region of the suppressed frequencies. In some practical cases, it is sometimes necessary, however, for the filter to have a considerable impedance in the suppressed band. Two such filter circuits, containing one and two piezoelectric resonators respectively (see Fig. 1a and 1b) are described in the present article. These filter circuits have really two suppression bands: a wide one and a narrow one. The narrow band, in the region of the antiresonance frequency of the resonator (shunted by a capacitance), is the principal one and is used for the suppression of currents of given frequencies. Its width is somewhat larger in the circuit containing two resonators. Using equivalent circuits for his discussion, the author calculates the effective attenuation in the suppression band. He establishes first a general formula for the case of the filter circuit con-

Card 1/2

Puc. 1

Card 2,

9.2186 (1063, 1159)
9.3230 (1132, 1040)

29587
S/108/61/016/011/003/007
D201/D304

AUTHORS: Velikin, Ya.I., Gel'mont, Z.Ya., and Zelakh E.V., Members of the Society

TITLE: Narrow-band lattice crystal filters

PERIODICAL: Radiotekhnika, v. [illegible], no. 11, 1961, 26 - 33

TEXT: In the present article design formulae are derived for lattice filters consisting of a piezoelectric crystal and a capacitor and forming a single, two-, three and four-section networks. The analysis of the filters is made using basic Π- and T-sections, as shown in Figs. 1a and 2a. Although design formulae for the above configuration are given in literature, for narrow pass-band filters, in which the ratio of the pass-band to its center frequency is smaller than e.g. 0.05, simpler approximate formulae may be used obtained by the method similar to that given by E.V. Zelakh (Ref. 6: Metod rascheta ekvivalentnykh skhem (Method of Designing Equivalent Circuits). Nauchno-tekhn. sb. po elektrosvyazi Leningr. in-ta svyazi no. 6, 1946). These formulae are as follows: for Π-section

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Narrow-band lattice crystal filters

$$C_1 \approx \frac{1 - m^2}{4\pi m f_a R_{nom}} \qquad (1)$$

$$C_2 \approx \frac{m}{2\pi f_a R_{nom}} \qquad (2)$$

$$C_q \approx \frac{\Delta}{2\pi m f_a^2 R_{nom}}, \qquad L_q \approx \frac{m R_{nom}}{2\pi f_a}$$

for T-section

$$C_1 \approx \frac{m}{2\pi f_a R_{nom}}, \qquad C_2 \approx \frac{1}{\pi (m^2 - 1) f_a R_{nom}},$$

$$C_q \approx \frac{2m^3 \Delta}{\pi (m^2 - 1)^2 f_a R_{nom}}, \qquad L_q \approx \frac{(m^2 - 1)^2 R_{nom}}{8\pi m^3 \Delta}.$$

Card 2/6

Narrow-band lattice crystal filters

For both cases

$$m = \sqrt{\frac{f_2^2 - f_\infty^2}{f_1^2 - f_\infty^2}} \qquad (3)$$

and $$\Delta = f_2 - f_1, \quad f_a = \frac{1}{2}(f_1 + f_2) \qquad (4)$$

where f_1 and f_2 out-off frequencies, f_∞ - frequences of the attenuation band, R_{nom} - characteristic filter impedance at freqeuncy f_a. For narrow-band filters, as frequencies near f_ε

$$m \approx \sqrt{\frac{f_2 - f_\infty}{f_1 - f_\infty}} \qquad (5)$$

may be assumed and hence, introducing

$$\Delta_\infty = 2(f_\infty - f_a), \quad t = \frac{\Delta_\infty}{\Delta} \qquad (6)$$

Card 3/6

Narrow-band lattice crystal filters

the approximate expression for m is obtained as

$$m \approx \sqrt{\frac{\tau - 1}{\tau + 1}}, \qquad (7)$$

which is the generalized equation (does not contain frequency). The attenuation of the single section filter is derived as

$$N \approx \frac{1}{2}\sqrt{\tau^2 - 1}\ \frac{\frac{1}{\alpha} - \alpha + (\frac{1}{\alpha} + \alpha)\eta}{\eta - \tau}. \qquad (22)$$

where $\alpha = \frac{R_o}{R_{nom}}$, and η given by

$$\eta = \frac{f - f_a}{\frac{1}{2}\Delta} \qquad (19)$$

- the normalized frequency (Ref. 6: Op. cit.). For the two-section filter the anntenuation is derived as

Card 4/6

Narrow-band lattice crystal filters

$$N \approx \sqrt{t^2 - 1}\,\frac{\left[\frac{1}{\alpha} - \alpha + \left(\frac{1}{\alpha} + \alpha\right)\eta\right](\eta t - 1)}{(\eta - t)^2}, \qquad (27)$$

for three-section

$$N \approx \frac{1}{2}\sqrt{t^2 - 1}\left[\frac{1}{\alpha} - \alpha + \left(\frac{1}{\alpha} + \alpha\right)\eta\right]\frac{4(\eta t - 1)^2 - (t - \eta)^2}{(t - \eta)^3} \qquad (35)$$

and four-section as

$$N \approx 2\sqrt{t^2 - 1}\left[\frac{1}{\alpha} - \alpha + \left(\alpha + \frac{1}{\alpha}\right)\eta\right](\eta t - 1)\,\frac{2(\eta t - 1)^2 - (\eta - t)^2}{(\eta - t)^4};$$

Each of tehm simplifies according to the values of load and the respectiv. values of η and t. The above filter circuits may, in particular be used for crystal filters at frequencies above 1 mc/s, with transverse oscillating crystals of AT and BT cut. Experimental two- and three-Π-section filters operating at the center pass-band frequency of 1364 kc/s had a pass band of 800 c/s. There are 8 figures and 7 references: 4 Soviet-bloc and 3 non-Soviet-bloc. The

Card 5/6

Narrow-band lattice crystal filters

reference to the English-language publication reads as follows: R. A. Sykes, IRE National Convention; part 2, 1958.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (Scientific and Technical Communication im. A.S. Popov) [Abstractor's note: Name of Association taken from 1st page of journal]

SUBMITTED: April 29, 1960 (initially)
July 7, 1961 (after revision)

Fig. 1.

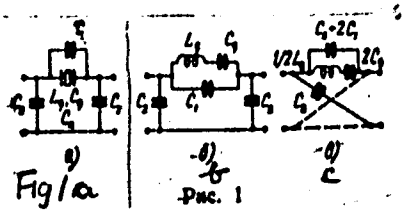

Fig 1a

Рис. 1

Fig. 2.

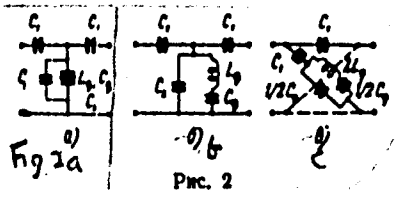

Fig 2a

Рис. 2

BOROVINSKAYA, D.A.; GEL'MONT, Z.Ya.

Upper frequencies quartz filter using an overlapped T-network. Elektrosviaz' 17 no.5:34-40 My '63. (MIRA 16:4)
(Electric filters) (Radio filters)

S/065/60/000/006/006/008/XX
E194/E484

AUTHORS: Agafonov, A.V., Gel'ms, I.E. and Rabikovich, E.I.

TITLE: The Selection of Catalyst for Cracking Residual Petroleum Fractions and Study of its Poisoning During the Process

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, No.6, pp.6-12

TEXT: A special feature of the operating conditions of catalyst when cracking residual feed is the high rate of poisoning of the catalyst by the combined influence of temperature, steam, sulphur compounds and resinous substances containing metallo-organic compounds. The poisoning is specially marked with catalyst in powder form. The high molecular hydro-carbons of the heavy part of the feed are the main source of products that are of low stability at temperatures used for cracking so that there is no need for a great reduction in the energy of activation. Moreover, the use for this purpose of high activity catalysts is accompanied by considerable increase in gas and coke formation. The measure of the necessary activity of catalyst used in cracking residual feed should be the production of gasoline of good engine properties combined with

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S/065/60/000/006/006/008/XX
E194/E484

The Selection of Catalyst for Cracking Residual Petroleum Fractions and Study of its Poisoning During the Process

favourable gas composition and a high rate of conversion of the residual fractions. It is desirable to use large plants for cracking residual fractions which requires large quantities of catalyst of appropriate quality. It is found that the requisite conditions are satisfied by fire-resistant high-alumina kaolin clays, many kinds of which after simple heat treatment have sufficiently good and stable catalytic properties. Table 1 gives the characteristics of semi-industrial quantities of natural catalysts obtained from various natural clays. In this table the activity of the catalysts is characterized by the cracking of light feed as this gives the more sensitive index of performance. Catalyst poisoning is then considered and Table 2 gives experimental data about the deactivation of a simple, natural, microspherical catalyst. Characteristics of the cracker feed-stocks are given in Table 3. The tests, results of which are given in Table 2, were continued for 20 days and the observed changes in catalyst properties may be considered as the results of poisoning by metals and sulphur combined with poisoning due to reduction in the surface and porosity

The Selection of Catalyst for Cracking Residual Petroleum Fractions and Study of its Poisoning During the Process

caused by heat and steam. The selectivity of the catalyst was much reduced. Comparison between the test results and those of laboratory tests with artificial poisoning of the catalyst by metal showed that in the tests most of the poisoning was due to metals and not sulphur, see Table 4. The influence of metals deposited on the catalysts on certain characteristics of cracking of distillate and crude oil feeds are given in Table 5. Note should be made of the much smaller degree of poisoning of the catalyst by an equal quantity of deposited metal when cracking residual feed rather than distillate. The influence of steam was studied in the laboratory and the results are given in Table 6; it will be seen that treatment of poisoned catalyst by steam promotes recovery of activity and improves the selectiveness. It is concluded from the work that catalytic cracking of residual feed stock on micro-spherical natural catalyst is practical and a stable process can be achieved. The capital cost of constructing a catalyst manufacturing works should not be above 500 roubles per ton of catalyst produced per year. Investment in quarries and other

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S/065/60/000/006/006/008/XX
E194/E484

The Selection of Catalyst for Cracking Residual Petroleum Fractions and Study of its Poisoning During the Process

workings is from 100 to 200 roubles per ton per year. The cost of one ton of finished catalyst is about 400 roubles. It is calculated that the use of natural catalyst rather than synthetic economizes both capital investment in the production of catalyst and the cost of the first charge by not less than 15 roubles for each ton per year of feed stock delivered for catalytic crackings. Accordingly, the economy that results from the use of natural rather than synthetic catalyst for cracking residual feed stock is considerable. There are 6 tables and 8 references: 2 Soviet and 6 English.

ASSOCIATION: VNII NP

Card 4/4

SKURKO, Roman Isayevich; POCHERNIKOVA, Kaleriya Andreyevna; GEL'MS, I.E., red.; KLEYMENOVA, K.F., ved. red.; VORONOVA, V.V., tekhn. red.

[Production of synthetic catalysts for petroleum refining] Proizvodstvo sinteticheskikh katalizatorov dlia neftepererabotki. Pod red. i s dop. I.E.Gel'msa. Moskva, Gostoptekhizdat, 1963. 117 p. (MIRA 16:5)
(Catalysts) (Petroleum--Refining)

DAVYDOV, B.N.; BASOV, A.N.; GELIS, I.Z.

Cost of spent [illegible]. Neftepererab. i neftekhim. no.5:17-20 '64. (MIRA 17:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva.

GEL'MS, I.E.; DAVYDOV, B.N.

Problems of economics in the development of the production of catalysts for the petroleum industry. Khim. i tekh. topl. i masel 9 no.3:45-48 Mr'64 (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.

GUBIN, V.V., dotsent; MOGILEVSKIY, I.S.; GEL'MUT, A.Ye., gornyy inzh.

Coping with the rated capacity of mine No.8 of the "Prokop'yevskugol'" Trust. Ugol' 38 no.11:8-10 N '63. (MIRA 17:9)

1. Gornyy fakul'tet Sibirskigo metallurgicheskogo instituta (for Gubin). 2. Glavnyy inzh. shakhty No.8 tresta Prokop'yevskugol' (for Mogilevskiy). 3. Shakhta No.8 tresta Prokop'yevskugol' (for Gel'mut).

GRNAR, J.; GOTTHARD, M.

"Flying in Kohoj-type Gliders over the Peskids", P. 520, (KRILA VLASTI, Vol. 2, No. 22, October 1953, Praha, Czech.)

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 4, No. 3, March 1955, Uncl.

GELNAR, J. ; REK, I.

Gelnar, J. ; Rek, L. Over the undulating Peskids. p.375.
Fight against fear; a discussion. (Conclusion) p.377.

No. 16, Aug. 1955 KRIDLA VLASTI Praha, Czechoslovakia

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 2
February, 1956

GEINAR, J.

GEOGRAPHY & GEOLOGY

CESKY LID.
Periodicals: ~~ARTS.REPOSOIKUM~~. Vol. 45, No. 5, 1958.

GEINAR, J. Rhythmic classification of our songs of the eastern (vocal) type. p. 207.

Monthly List of East European Accessions (EEAI) LC Vol. 8, No. 4, April 1959. Unclass.

JEDRZEJEWSKI, Wlodzimierz; GELO, Helena

Application of amperometry in kinetic methods of quantitative analysis. II. Catalytic determination of microgram amounts of chromium (IV). Chem anal 7 no.4:753-758 '62.

1. Katedra Chemii Nieorganicznej, Uniwersytet, Lodz.

GELO, J.

Potentiometric Determination of Na_2S in the Waste Sulfite Liquor, p. 102.

PRZEGLAD PAPIERNICZY (Ministerstwo Przemyslu Drzewnego i Papierniczego oraz Stowarzyszenie Naukowe-Techniczne Inzynierow i Techników Przemyslu Papierniczego)
Lodz, Poland
Vol. 14, no. 4, April 1958.

Monthly List of East European Accessions Index (EEAI), LC, Vol. 8, No. 11, November 1959.
Uncl.

POLAND / Chemical Technology. Chemical Products and Their Application. Cellulose and Its Derivatives. Paper. H

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 33539.

Author : Gelo, I. Wasiak, B.
Inst : Not given.
Title : Determination of Na_2S, NaOH and Na_2CO_3 with An Alkali Sulfate.

Orig Pub: Przegl. papiern., 1958, 14, No 9, 265-268.

Abstract: By a proposed method, Na_2S is determined iodometrically after a preliminary precipitation of the organic substances by an aqueous alcohol solution of $BaCl_2$. NaOH and Na_2CO_3 are determined by titration with 0.5 n. HCl after the preliminary removal of the sulfide by 0.1 n. $ZnSO_4$

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POLAND / Chemical Technology. Chemical Products and Their Application. Cellulose and Its Derivatives. Paper. H

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 33539.

Abstract: solution. The method is verified in a number of processed alkali and in white alkali. Due to the simplicity and speed of the analysis, this method insures satisfactory accuracy in industrial supervision. -- From the authors' summary.

Card 2/2

GELO, Jan, mgr

Comparison of two methods of determining the floating and swelling capacity of rayon grade pulps during the steeping process. Przegl papier 21 no.1:1-5 Ja '65.

1. Pulp and Paper Institute, Lodz. Submitted October 1964.

S/169/62/000/009/058/120
D228/D307

AUTHORS: Grammakov, A. G., Golobovskaya, V. S. and Khaykovich, I. M.

TITLE: Some problems of the theory of the helium method

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 42-43, abstract 9A281 (In collection: Vopr. rudn. geofiz., no. 3, M., Gosgeoltekhizdat, 1961, 3-21)

TEXT: The basic theoretical principles of the helium method of seeking uranium deposits are given. The method is based on the fact that much of the He^4 is a radioactive decay product of elements of the uranium and thorium series. Part of the helium escapes in consequence of the crystal lattice being disturbed. The migration of escaping helium is considered on the basis of the diffusion theory; this allows use to be made of the developed theory of gas surveying and takes into account that helium is formed continuously in rocks through which it diffuses. The following points are considered: the stationary distribution of gas in rock; and the

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possible helium concentration over uranium orebodies, in the form of endless beds with a uniformly distributed concentration, and over globularly and cylindrically shaped bodies. The question of establishing the stationary state and of estimated a deposit's age is studied. The results of calculating the distribution of helium on models and contrivances are given; they can be used to determine the coefficients of diffusion of gases under field and laboratory conditions. It is concluded that the helium method can be expediently used in areas where rocks have low diffusion factors ($\sim 10^{-5}$ cm/sec^2). The question is raised about the creation of accurate and highly sensitive equipment and about the method's further development. [Abstracter's note: Complete translation.]

BENCZE, Bela, dr. GELOCZY, Ferenc, dr.; TOTH, Maria, dr.; UGRAI Miklosne, dr.

Quantitative changes in the tocopherol (Vitamin E) content of the blood serum in the course of life. Gyermekgyogyaszat 15 no.6:176-183 Je'64

1. A Budapesti Orvostudomanyi Egyetem I. sz. Gyermekklinikajanak (Igazgato: Gegesi Kiss, Pal, dr. akademikus, egyetemi tanar) kozlemenye.

USSR/Diseases of Farm Animals - Diseases Caused by Helminths. R.

Abs Jour : Ref Zhur - Biol., No 6, 1950, 26336

Author : Gelovani, D.I.

Inst : Tbilisi Zoological and Technical Institute of Veterinary Sciences.

Title : General Influance of Stannum Arsenate on Chickens and Its Toxicity.

Orig Pub : Materialy 12-y Nauchn. konferentisii, posvyashch. 25-lyetiyu Gruz. zootekhn.-vet. in-ta Tbilisi, 1957, 32-36.

Abstract : The anthelmintic effectiveness stannum arsenate (I) was tested on chickens infestated by cystoliths or ascaridae, as well as on chickens with mixed infestations. (I) was administered to the chickens internally after 18 to 20 hours of fasting in the form of gelatin

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USSR/Diseases of Farm Animals - Diseases Caused by Helminths. R.

Abs Jour : Ref Zhur - Biol., No 6, 1950, 26336

capsules in dosages of 0.1, 0.12 and 0.15 grams per each adult chicken (after four hours the chickens were fed). The most effective (one hundred percent extensive and intensive effectiveness) dosage was found to be 0.15 grams. The toxic dosage of (I) is eight times larger than the therapeutic dosage, and therefore (I) may be used in group administrations to chickens. Young chickens are more sensitive to (I).

Card 2/2

Country : USSR
CATEGORY : Farm Animals. General Problems. 4-1

ABS. JOUR. : RZBiol., No. 4, 1959, No. 16602

AUTHOR : Gelovani, D. M.
INST. : Georgia Zootechnical-Veterinary Institute.
TITLE : The Application of Antibiotics in Animal Husbandry.

ORIG. PUB. : V sb.: Materialy 13-y Nauchn. konferentsii (Gruz. zootekhn.-vet. in-t). Ch. 2, Tbilisi,*
ABSTRACT : No abstract.

CARD: 1/1
*1957, 12-15

GELOVANI, D.M.

COUNTRY : USSR
CATEGORY : Pharmacology and Toxicology. Cardiovascular Agents
ABS. JOUR. : RZhBiol., No. 5 1959, No. 23202

AUTHOR : Gelovani, D. M.
INST. : Georgian Zootechnical Veterinary Institute
TITLE : On Some Pharmacological Properties of the Alkaloid Salsolidin

ORIG. PUB. : Shromata krebuli. Sakartvelos zootekhnikur-veterinaro instituti, Sb. tr. Gruz. zootekhn.-vet.*
ABSTRACT : DL_{100} of salsolidin (I) for mice in subcutaneous introduction is 10 mg, and the minimal tolerated dose is 5 mg. The depressor influence of I and salsolin (II) upon blood pressure depends on direct depressive action upon vasomotor centers and, to a lesser degree, on their direct vasodilative

*in-t, 1956, 1957 (1958), 9, 135-143

Card: 1/2

GELOVANI, M. A.

"Data on the Study of the Secretory Function of the Stomach of Young Dystrophic Children." Cand Med Sci, Tbilisi State Medical Inst, Tbilisi, 1953. (RZhBiol, No 8, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

GELOVANI, M.A., kand.med.nauk; SUJAVA, N.O.

Case of renal diabetes combined with levulosuria. Pediatriia no.11: 85-86 N '57. (MIRA 11:2)

1. Iz kafedry gospital'noy pediatrii (zav. - prof. I.M.Rikhiladze) Tbilisskogo meditsinskogo instituta (dir. - prof. I.T.Menteshashvili)
(DIABETES)
(URINE--ANALYSIS AND PATHOLOGY)

GELOVANI, M.A.

State of the cardiovascular system in children with acute glomerulonephritis. Soob. AN Gruz. SSR 33 no.3:715-721 Mr '64 (MIRA 17:8)

1. 2-ya Detskaya bol'nitsa, Tbilisi. Predstavleno akademikom K.D.Eristavi.

GELOVANI, Meri Akvsentiyevna; KVACHADZE, Iosif Mikharoblovich

[Some characteristics of gastric secretion in dystrophic young children] [Nekotorye osobennosti zheludochnoi sekretsii u distroficheskikh detei rannego vozrasta. Tbilisi, Gos.izd-vo "Sabchota Sakartvelo."] 1963. 178 p.[In Georgian] (MIRA 17:4)

1. KAFYAN, A. G., GELOVANI, YE. S.

2. USSR (600)

4. Mulberry

7. Ways for accelerated growing of the mulberry tree.
Dost. sel'khoz. No.3, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

COUNTRY : USSR
CATEGORY : Cultivated Plants. Industrial. Oleiferous. M
Sugar.
ABS. JOUR. : RZhBiol., No. 3, 1959, No. 11068

AUTHOR : Gelovani, Ye. S.
INST. : Georgian Scientific Research Institute of Sericulture.
TITLE : Methods of Pre-Planting Grafting of Mulberry.

ORIG. PUB. : Byul. nauchno-tekhn. inform. Gruz. n.-i. in-ta shelkovodstva, 1957, No. 2, 9-26.

ABSTRACT : Methods of pre-planting grafts of mulberry (by the pre-planting winter inoculation on the seedlings and by the graft of a scion on rootstocks) suggested by Georgian Scientific Research Institute of Sericulture (1948-1955) are described. In the winter inoculation, there were selected seedlings of the first grade which had stems of 8-10 mm diameter at the collum, the seedlings then being placed in a vessel with water (the temperature of the room was 15-20°). Inoculation was performed with the eyes of the variety Gruziya by the usual method at the height of 4-5 cm from the collum. The rooting in 1951

CARD: 1/2

MICHALSKI, Eugeniusz; GELOW, Helena

Catalytic determination of microgram amounts of germanium on the basis of amperometric measurements. Chem anal 8 no.4:643 '63.

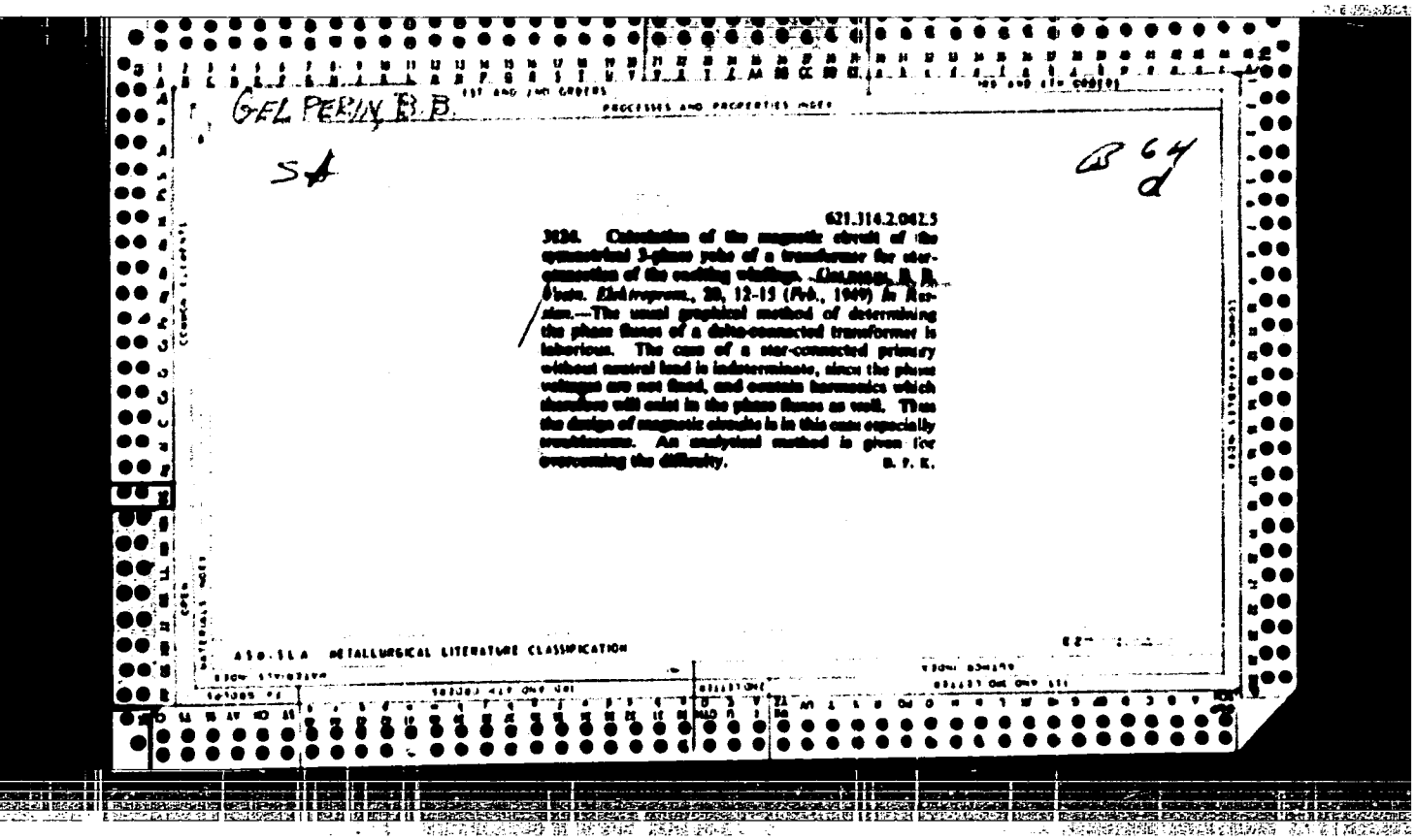
1. Department of Inorganic Chemistry, University, Lodz.

GEL'PERIN, A.I., kand.tekhn.nauk

"Hoisting and conveying machinery" by A.A.Vainson. [kand.tekhn.nauk]. Reviewed by A.I.Gal'perin. Mont.i spets.rab.v stroi. 22 no.6: 31-32 Jl '60. (MIRA 13:7)
(Hoisting machinery) (Conveyers)
(Vainson, A.A.)

GEL'PERIN, E. N.

Theory, computation, and design of apparatus for the process of deodorizing oils. N. I. Gel'perin and E. N. Gel'perin. *Maslobelno-Zhirovaya Prom.* 19, No. 4, 12-15 (1964).—Equations were developed to show the consumption of live steam by batch (I) and continuous (II) deodorizers. II has an economic advantage over I and can be designed easily and efficiently. V. N. Krukovskii (1)



GEL PERLIN B.B.

S4

B 64 d

621.314.2.042.3

3036. Calculation of the magnetic circuit of the symmetrical 3-phase yoke of a transformer for star-connection of the winding windings. *Gel'perin, B. B.* (Ukrain. *Elektrprom.*, 20, 12-15 (Feb., 1949) In Russian.—The usual graphical method of determining the phase fluxes of a delta-connected transformer is laborious. The case of a star-connected primary without neutral lead is indeterminate, since the phase voltages are not fixed, and contain harmonics which themselves will exist in the phase fluxes as well. Thus the design of magnetic circuits is in this case especially troublesome. An analytical method is given for overcoming the difficulty. B. P. K.

A50-51A METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR: ~~Gel'perin, B.B.~~, Docent, Candidate of Technical Sciences (Moscow) 105-58-5-11/28

TITLE: Calculation Method of Saturation Chokes (Metod rascheta drosseley nasyshcheniya)

PERIODICAL: Elektrichestvo, 1958, Nr 5, pp. 47-51 (USSR)

ABSTRACT: A method for the calculation of chokes in the case of given technical characteristics with minimal dimensions, minimal weight, and involving low costs at permissible energy losses is described. One of the possible constructions is investigated: The alternating current winding is fitted on to a core. Every winding can be divided into two parts and can be fitted to both cores, in which case they are connected in series or parallel. The optimal chokes characteristics, viz. weight, dimensions and the operational characteristics, are influenced by the ratio between the weight of the active steel and the weight of the alternating current-winding ... M.... For the projecting of transformers M=2,5-3,5 is at present usual in the USSR. For saturation chokes this number applies to the ratio between the weight of the active steel and the total weight of D.C. - and A.C. windings. Basing on this

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number, it is possible to ascertain what magnitude of M is to be assumed in the here mentioned equations (11) - (15), in which case the weight of the copper of the D.C. winding must first be estimated. The magnetizing force for D.C. and A.C. is investigated separately and two equations (20), which are graphically represented, are derived. Further calculation of the chokes does not differ from that of the transformer and is therefore not mentioned in this connection. There are 3 figures, and 4 references, 2 of which are Soviet.

SUBMITTED: March 11, 1957

AVAILABLE: Library of Congress

1. Saturable reactors--Mathematical analysis 2. Saturable reactors --Design

BURMAN, Petr Georgiyevich; KRAYZ, Aleksandr Grigor'yevich; GEL'PERIN, B.B., obshchiy red.; SKVORTSOV, P.P., obshchiy red.; TIMOKHINA, V.I., red.; VORONIN, K.P., tekhn.red.

[Manufacture of magnetic circuits for transformers] Proizvodstvo magnitoprovodov transformatorov. Moskva, Gos.energ.izd-vo, 1959. 150 p. (Transformatory, no.3). (MIRA 13:2)
(Electric transformers)

SHNITSER, L.M.; GEL'PERIN, B.B., red.; SKVORTSOV, P.F., red.; TIMOKHINA, V.I., red.; ASANOV, P.M., tekhn.red.

[Principles of the theory and capacity of electric transformers] Osnovy teorii i nagruzochnaia sposobnost' transformatorov. Izd.5, perer. Moskva, Gos.energ.izd-vo, 1959. 230 p. (Transformatory, no.1). (MIRA 13:7)

(Electric transformers)

KAGANOVICH, Yevsey Aronovich; TIMOKHINA, V.I., red.; SKVORTSOV, P.P., inzh., red.; GKL'PERIN, B.B., kand.tekhn.nauk, red.; ASANOV, P.M., tekhn.red.

[Testing of low and medium power transformers] Ispytanie transformatorov maloi i sredneĭ moshchnosti. Moskva, Gos. energ.izd-vo, 1959. 239 p. (Transformatory, vyp.2). (MIRA 13:3)

(Electric transformers)

ALEKSENKO, Gennadiy Vasil'yevich; SKVORTSOV, P.P., red.; GEL'PERIN, B.B., red.; TIMOKHINA, V.I., red.; BORUNOV, N.I., tekhn.red.

[Parallel operation of transformers] Parallel'naia rabota transformatorov. Moskva, Gos.energ.izd-vo, 1960. 342 p. (Transformatory, no.5). (MIRA 13:7)
(Electric transformers)

GEL'PERIN, B.B.; GUSAKOV, V.D.; LUBAN, Kh.L.; TROFIMOVA, N.N.

Tuning betatrons for maximum intensity. Prib.i tekh.eksp. no.4:13-17 Jl-Ag '60. (MIRA 13:8)

1. Moskovskiy transformatornyy zavod.
(Betatron)

87362

S/120/60/000/004/001/028
E032/E414

21,2300

AUTHORS: Gel'perin, R.B., Gusakov, V.D., Luban, Kh.L. and Trofimova, N.N.

TITLE: Methods of Adjustment of Betatrons to Maximum Intensity

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No.4, pp.13-17

TEXT: The intensity of γ-rays produced by a betatron depends on a large number of factors, all of which have to be taken into account in order to obtain the maximum possible intensity. The present authors describe measures which were taken by them to ensure this maximum intensity. The first section of the paper describes devices which were used to obtain the optimum orbit radius. The radius of the orbit was controlled by special coils located on the electromagnet pole-face. The emf induced in these coils by the field produced by the electromagnet was balanced by externally applied emf. When the two emf's are in fact balanced, the radius of the orbit remains unaltered. If, on the other hand, the external emf is less than the emf induced in the coil, then the current produced in the coil gives rise to a magnetic flux which can be used to control the radius of the orbit. By plotting the intensity of the γ-rays as a function of the orbit radius, the

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Methods of Adjustment of Betatrons to Maximum Intensity

optimum radius can be determined. This scheme was used with a 15 MeV betatron in which the radius could be varied by 10 mm, using a current of 36 A. The second section of the paper is concerned with compensation of magnetic field nonuniformities in the air gap of the electromagnet. Since the static nonuniformity remains practically constant, only the phase nonuniformity of the field is considered. Of all the harmonics of the phase azimuthal field nonuniformity, only the first and the second are of importance in the betatron. Therefore, the compensation of the phase nonuniformity is reduced to the minimization of the first and second harmonics. The two harmonics are compensated by two groups of compensating coils which are located at 90° intervals. This is particularly simple in electromagnets with four-yoke construction as shown in Fig.4. It was found in the case of a 25 MeV betatron that the compensation of the phase nonuniformity increases the intensity by a factor of 2. The final section of this paper is concerned with devices which are capable of altering the field index n at the instant of injection. In the case of a 15 MeV

Methods of Adjustment of Betatrons to Maximum Intensity

betatron two turns (in series) were used, having a radius equal to the radius of the equilibrium orbit. One of the turns was located above the chamber and the other below. The turns were connected through a stepdown transformer and a series resistor to the source supplying the electromagnet of the betatron. When only one turn was included in the circuit (either the upper one or the lower one), no change in the intensity occurred when the current was varied between 0 and 0.7 A. However, the intensity was increased by 20% when both coils were included, the current through them being 0.37 A. In one of the electromagnets it was found that there was a large phase shift along the radius and the shift increased with the radius. Although the static field index n for this magnet was 0.56 to 0.7 (in the region of the equilibrium orbit), the radial phase shift tended to increase n to about 1 at the instant of injection. This was counteracted by using distributed coils of the form shown in Fig.6. The coils were arranged so that the phase shift produced by them decreased with increasing radius. One group of such coils was placed below the

Methods of Adjustment of Betatrons to Maximum Intensity

chamber and another above it. In this way it was possible to ensure that the field index n did not exceed a certain limiting value at the instant of injection. In some betatrons use was made of orbit contracting coils. These consisted of two turns located above and below the chamber (Fig.8). In a 15 MeV betatron, the γ-ray intensity was increased by the superposition of an additional field at the instant of injection over a 130° sector. This was achieved with the aid of two four-turn coils, placed above and below the chamber respectively (Fig.9). There are 9 figures and 1 table.

ASSOCIATION: Moskovskiy transformatornyy zavod
(Moscow Transformer Factory)

SUBMITTED: July 10, 1958 (initially)
June 9, 1959 (after revision)

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S/120/60/000/004/001/[illegible]

E032/E414

Methods of Adjustment of Betatrons to Maximum Intensity

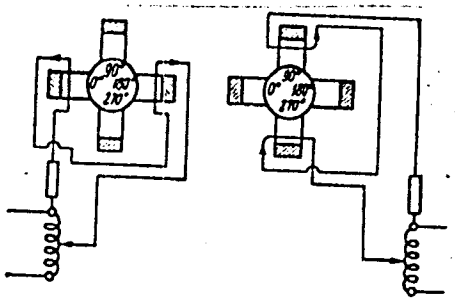

Рис. 4. Схема соединений компенсационных обмоток в электромагните четырехяремной конструкции

Fig.4

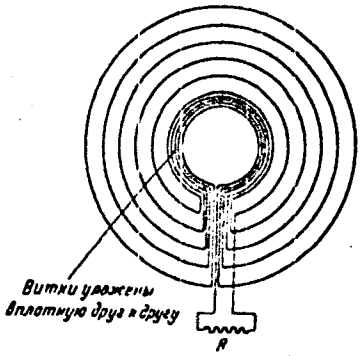

Рис. 6. Схема регулирования коэффициента спадания поля n

Fig.6

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Methods of Adjustment of Betatrons to Maximum Intensity

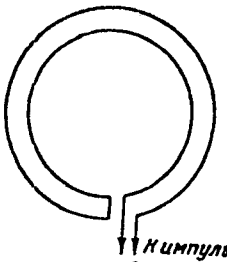

Рис. 8. Схема сужения орбиты в момент инжекции (контракция)

Fig.8

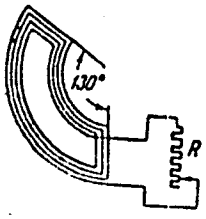

Рис. 9. Секторные витки для наложения дополнительного поля

Fig.9

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ANSHIN, Vladimir Shayevich; KRAYZ, Aleksandr Grigor'yevich; GIL'PERIN, B.B., red.; SKVORTSOV, P.P., red.; TIMOKHINA, V.I., red.; VORONIN, K.P., tekhn.red.

[Assembly of large transformers] Sborka moshchnykh transformatorov. Moskva, Gos.energ.izd-vo, 1961. 463 p. (Transformatory, no.6). (MIRA 14:4)

1. Moskovskiy elektrozavod imeni V.V.Kuybysheva (for Anshin, Krayz).

(Electric transformers)

CHERNICHKIN, D.S.; BORISENKO, N.I.; MESHCHERYAYKOV, K.N.; KOMAR, Ye.G.; FEDULOV, L.N.; KOZLINSKIY, V.A.; MAKSIMOV, A.S.; GEL'PERIN, B.B.

Professor D. V. Efremov; obituray. Elektrichestvo no.2:95-96 F '61. (MIRA 14:3)

(Efremov, Dmitrii Vasil'evich, 1900-1961)

S/196/61/000/010/017/037
E194/E155

AUTHOR: Gel'perin, B.B.

TITLE: Calculation of the magnetic leakage field of a coil with steel core and air gap

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.10, 1961, 12, abstract 10I 82. (Vestn. elektroprom-sti, no.3, 1961, 21-25)

TEXT: A method is proposed which gives simple equations for calculating the magnetic field of a coil near a gap in the steel core, allowing for the location of the magnetising coil and also for the final permeability of the steel. Calculations show that the magnetic leakage field of the coil may be represented by the magnetic field of a current in an infinitely thin lamina. If it is necessary to allow for the influence of the magnetising winding then a magnetising winding of natural dimensions and arrangement is introduced into the equivalent circuit; allowance must also be made for reflection of the winding from the steel surface. An example is given of an equivalent circuit which

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Calculation of the magnetic ... S/196/61/000/010/017/037
E194/E155

allows for the magnetising winding. The calculation procedure is given. A calculation is also given of the influence of core saturation of the magnetic leakage flux in the magnet poles. 5 illustrations.

[Abstractor's note: Complete translation.]

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Card 2/2

ALEKSENKO, Gennadiy Vasil'y- ich; [illegible]ICH, Ashryatov Ali; SOLOMONOVICH, Frid Yefim; GEL'FERIN, B.B., red.; SKVORTSOV, P.P., red.; KRAYZ, A.I., red.; BORUNOV, N.I., tekhn. red.

[Testing of high-voltage power transformers and autotransformers] Ispytaniia vysokovol'tnykh i moshchnykh transformatorov i avtotransformatorov. Moskva, Gosenergoizdat. Pt.1. 1962. 671 p. (Transformatory, no.8)
(MIRA 16:10)

(Electric transformers--Testing)

GEL'PERIN, B.B., kand.tekhn.nauk; ZLOBINSKIY, E.L., inzh.

Method for calculating a stabilizer based on the principle of a regulated choke. Vest. elektroprom. 34 no.4:32-38 Ap '63. (MIRA 16:10)

GEL'PERIN, N.I., professor, doktor tekhnicheskikh nauk; GEL'PERIN, E.N., inzhener-tekhnolog.

Rectification of binary mixtures consisting of components having mutual partial solubility. Gidroliz.i lesokhim.prom. 10 no.4:3-6 (MLRA 10:7)
(Distillation)

GEL'PERIN, N.I.; AYNSHTEYN, V.G.; GEL'PERIN, E.N.; L'VOVA, S.D.

Hydrodynamic characteristics of the fluidization of granular materials in conical-cylindrical units. Khim.i tekh.topl.i masel 5 no.8:51-57 Ag '60. (MIRA 13:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova.

(Fluidization) (Granular materials)

GEL'PERIN, N.N.

Determination of the coefficient of heat transfer in conical reactors having a granular solid fluidized bed. Zhur.VKHO 6 no.3:349-350 '61. (MIRA 14:6)
(Fluidization) (Heat—Transmission)

GEL'PERIN, E.N.; FRAYMAN, R.S.

Studying the heat transfer from conical surfaces to a fluidized bed.
Khim.prom. no.11:806-810 '63. (MIRA 17:4)

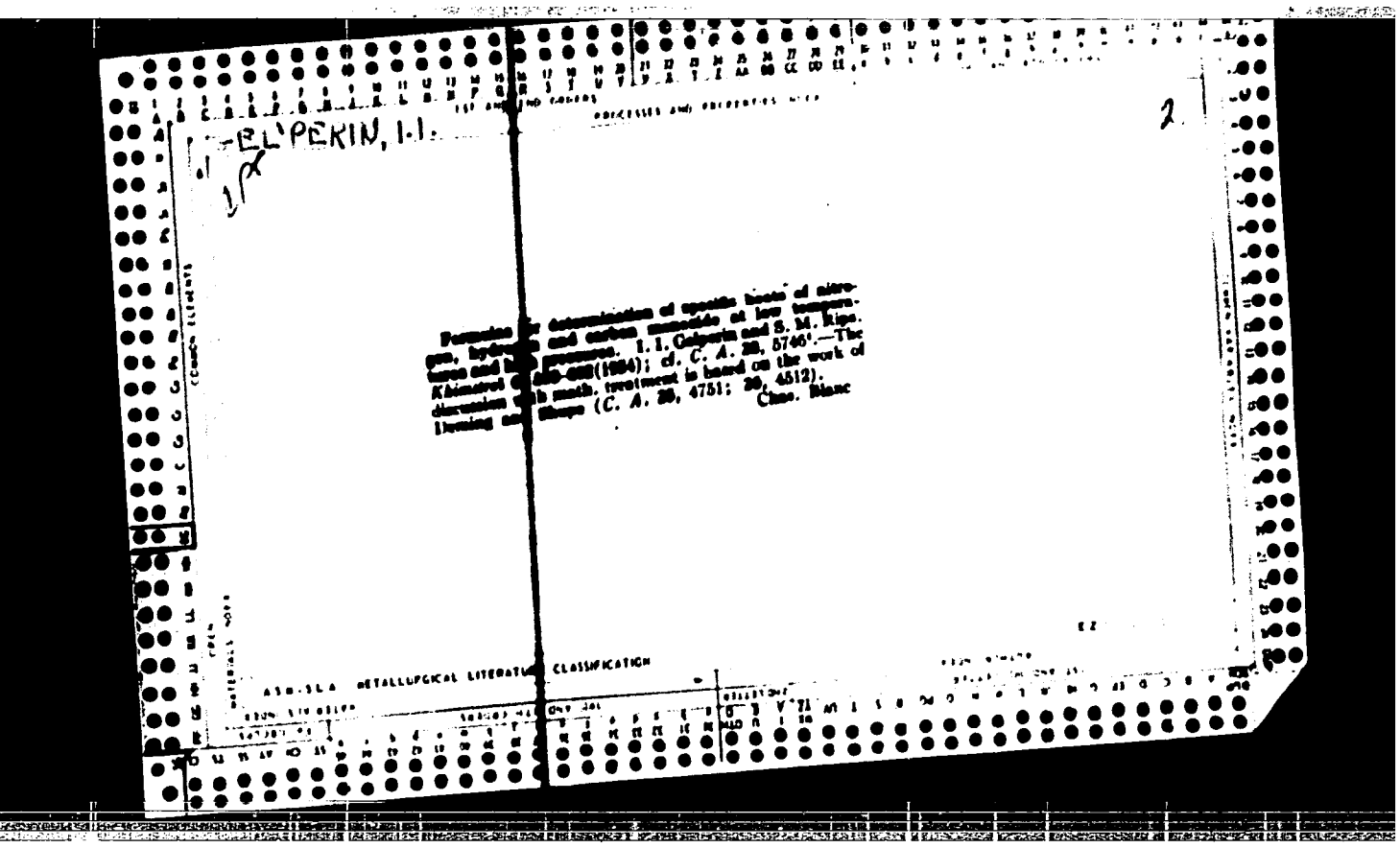
FRAYMNA, R.S.; GEL'PERIN, E.N.; BOBNEVA, A.A.

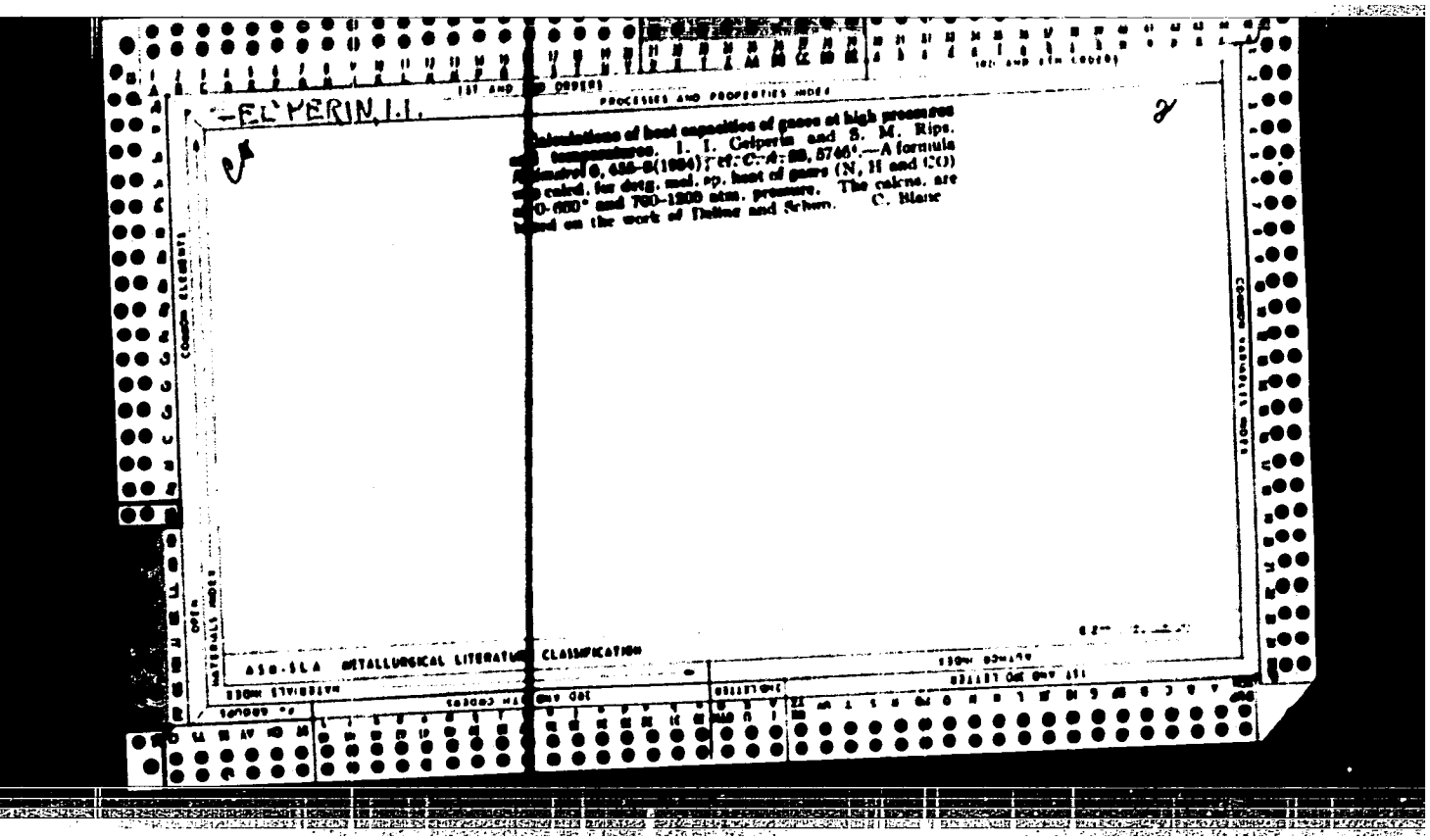
Multizonal apparatus for carrying out processes in a fluidized bed. Khim.prom. no.11:827-830 N '62. (MIRA 16:2)
(Fluidization--Equipment and supplies)

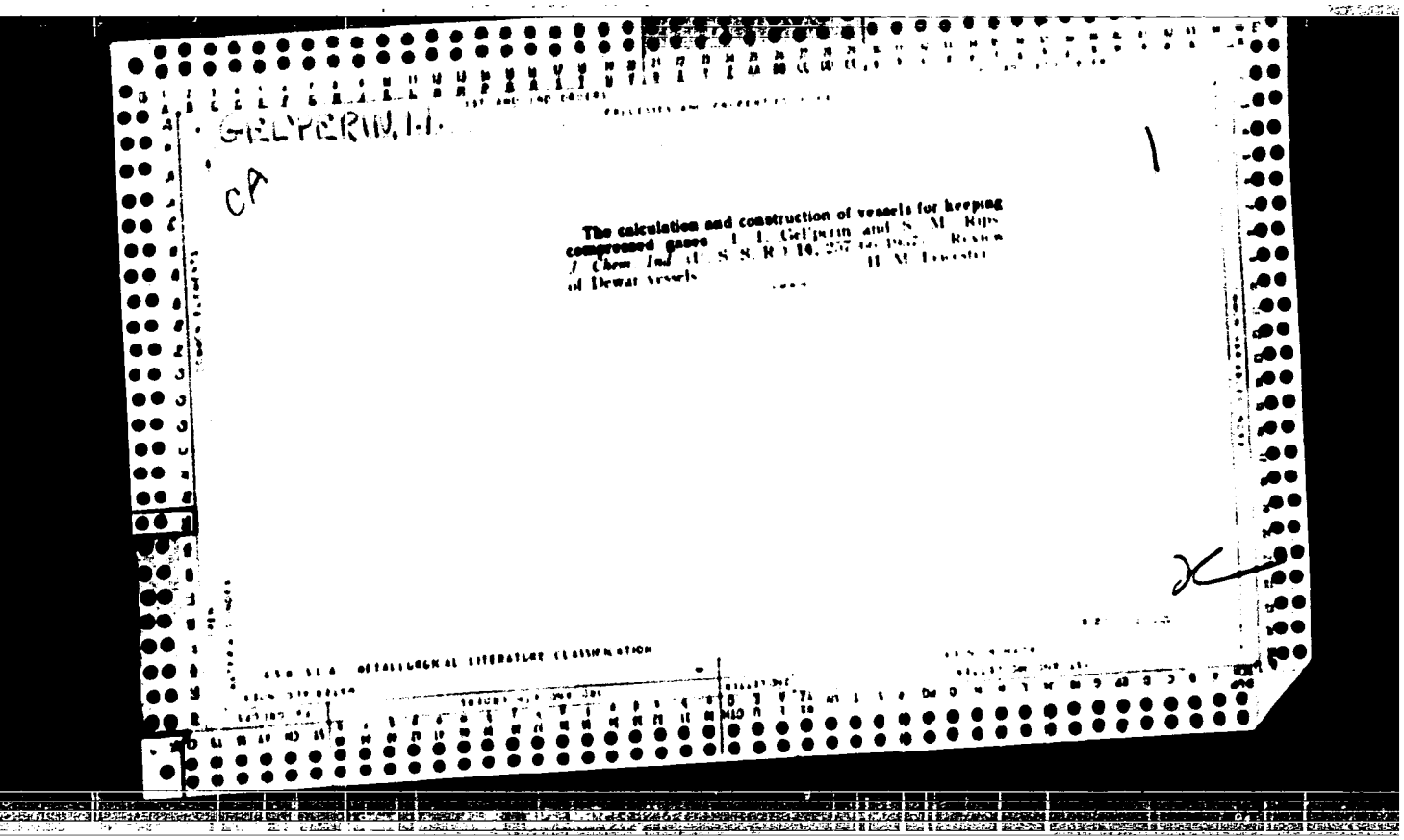
FRAYMAN, R.S.; GEL'PERIN, E.N.; LUZANOVA, T.I.

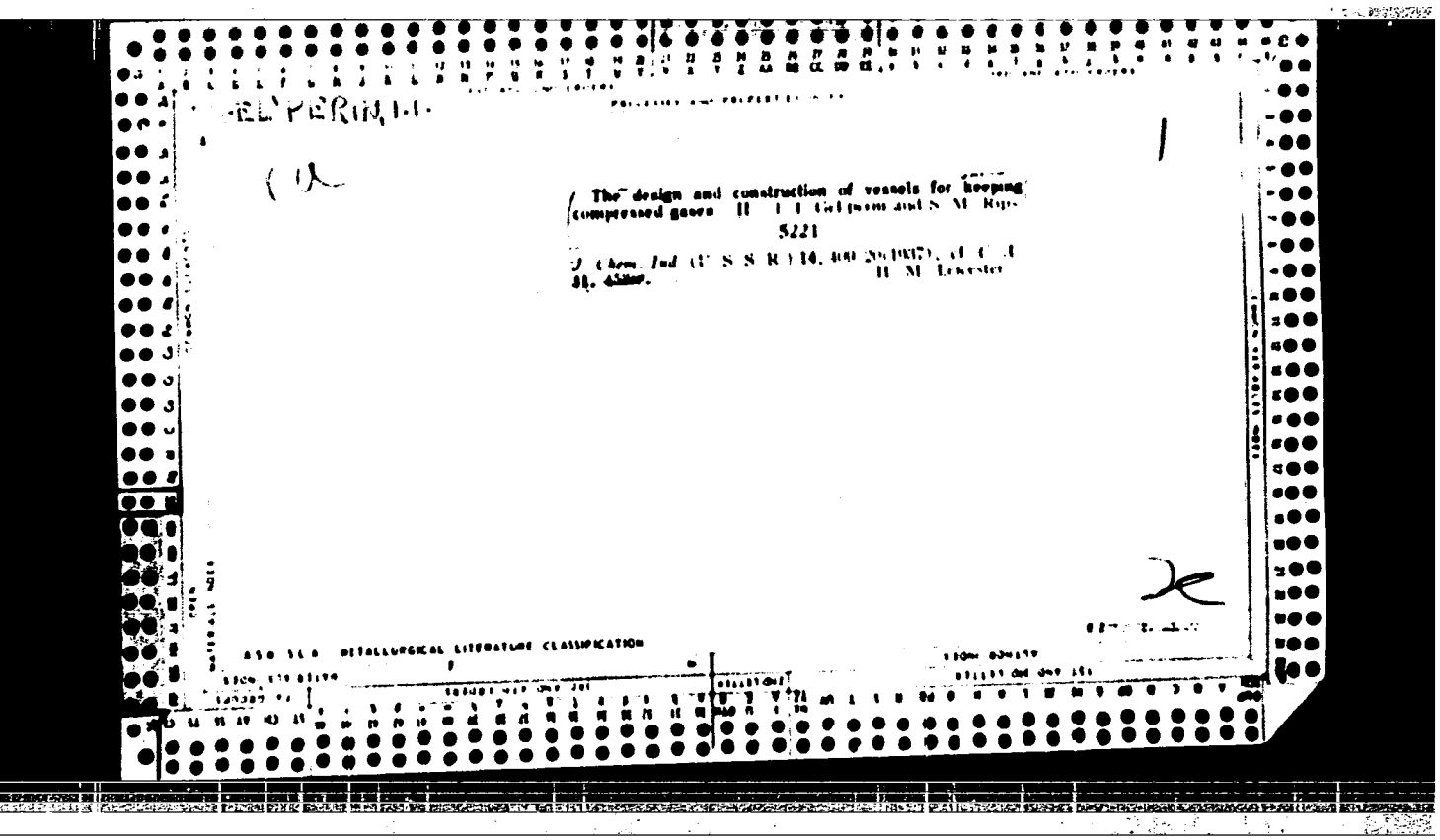
Gas-distributing units with conjugate cones for the apparatus with a fluid bed. Khim.i tekh.topl.i masel 8 no.8:44-46 Ag '63. (MIRA 16:9)

(Gas distribution) (Fluidization)





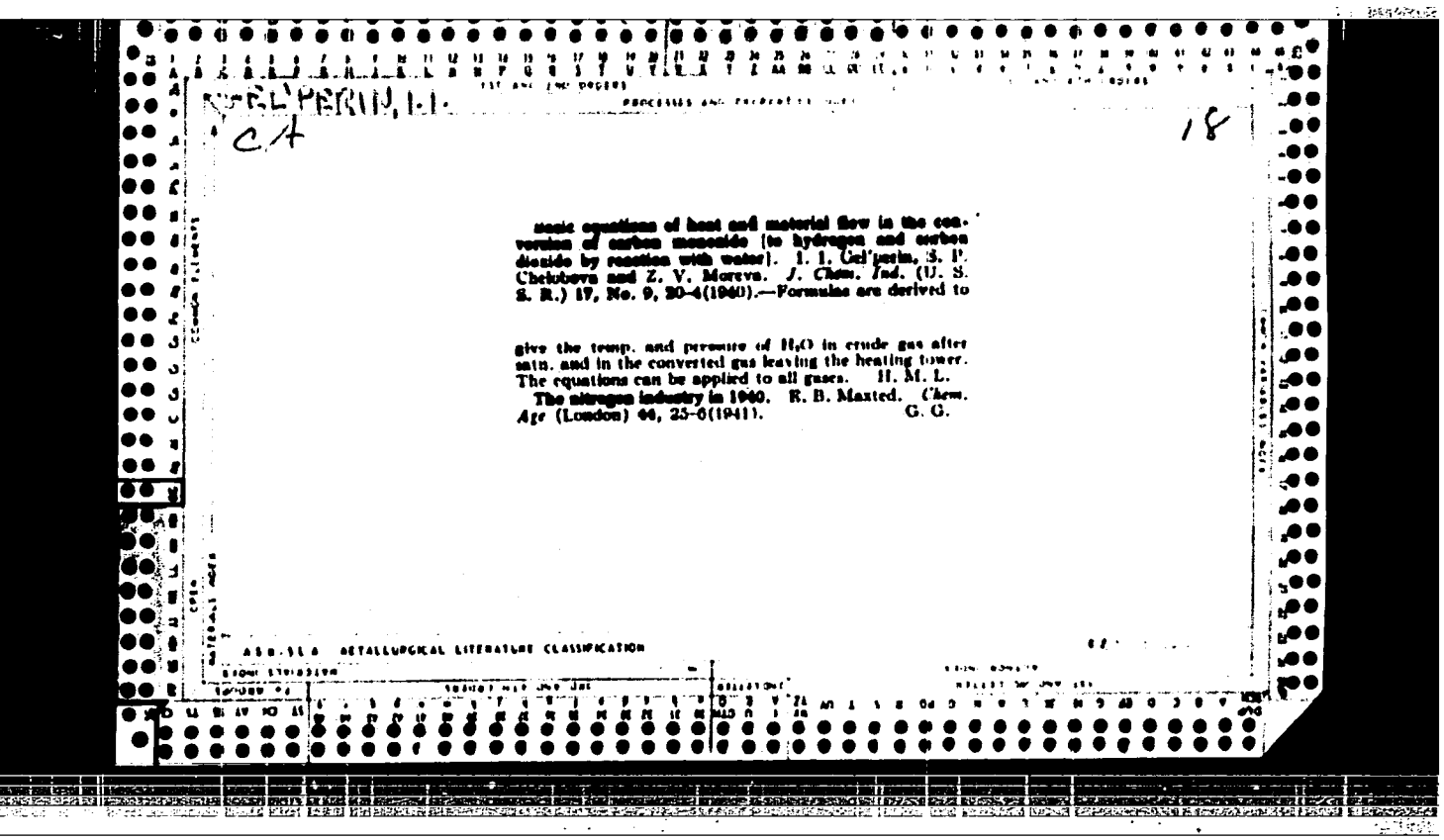




The design and construction of vessels for keeping compressed gases

5221

H M Leicester



basic equations of heat and material flow in the conversion of carbon monoxide [to hydrogen and carbon dioxide by reaction with water]. I. I. Gel'perin, S. P. Cheiotsova and Z. V. Moreva. *J. Chem. Ind.* (U. S. S. R.) 17, No. 9, 20-4(1940).—Formulas are derived to give the temp. and pressure of H_2O in crude gas after satn. and in the converted gas leaving the heating tower. The equations can be applied to all gases. H. M. L.

The nitrogen industry in 1940. R. B. Maxted. *Chem. Age* (London) 44, 25-6(1941). G. G.

~~GELPERIN, I. I.~~
GELPERIN, I. I.

Chem
4

Gel'perin, I. I., Zelikson, G. M., and Rapoport, L. L.: Spravochnik po rektifikatsii gazovykh smesei metodom glubokogo okhlazhdeniya (Handbook on Separation of Gas Mixtures by the Method of Deep Cooling). Moscow: Gosudarst. Nauch.-Tekh. Izdatel'stvo Khim. Lit. 1933. 391 pp.

SOV/124-58-2-1980

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 2, p 67 (USSR)

AUTHORS: Gel'perin, I. I., Rapoport, L. L.

TITLE: The Hydraulic Resistance of Coiled Heat Exchangers (Gidravlicheskoye soprotivleniye vitykh teploobmennikov)

PERIODICAL: Tr. Gos. n.-i. i proyektn. in-ta azotn. prom-sti, 1954, Nr 3, pp 193-199

ABSTRACT: It is shown that the calculation of the hydraulic resistance of a coiled heat exchanger according to formulas obtained from tests made on a bundle of tubes of relatively low solidity ratio yields an overrated value for the hydraulic resistance. An empirical formula is obtained for the calculation of the hydraulic resistance of the high solidity bundle of tubes comprising a coiled heat exchanger.

I. S. Simonov

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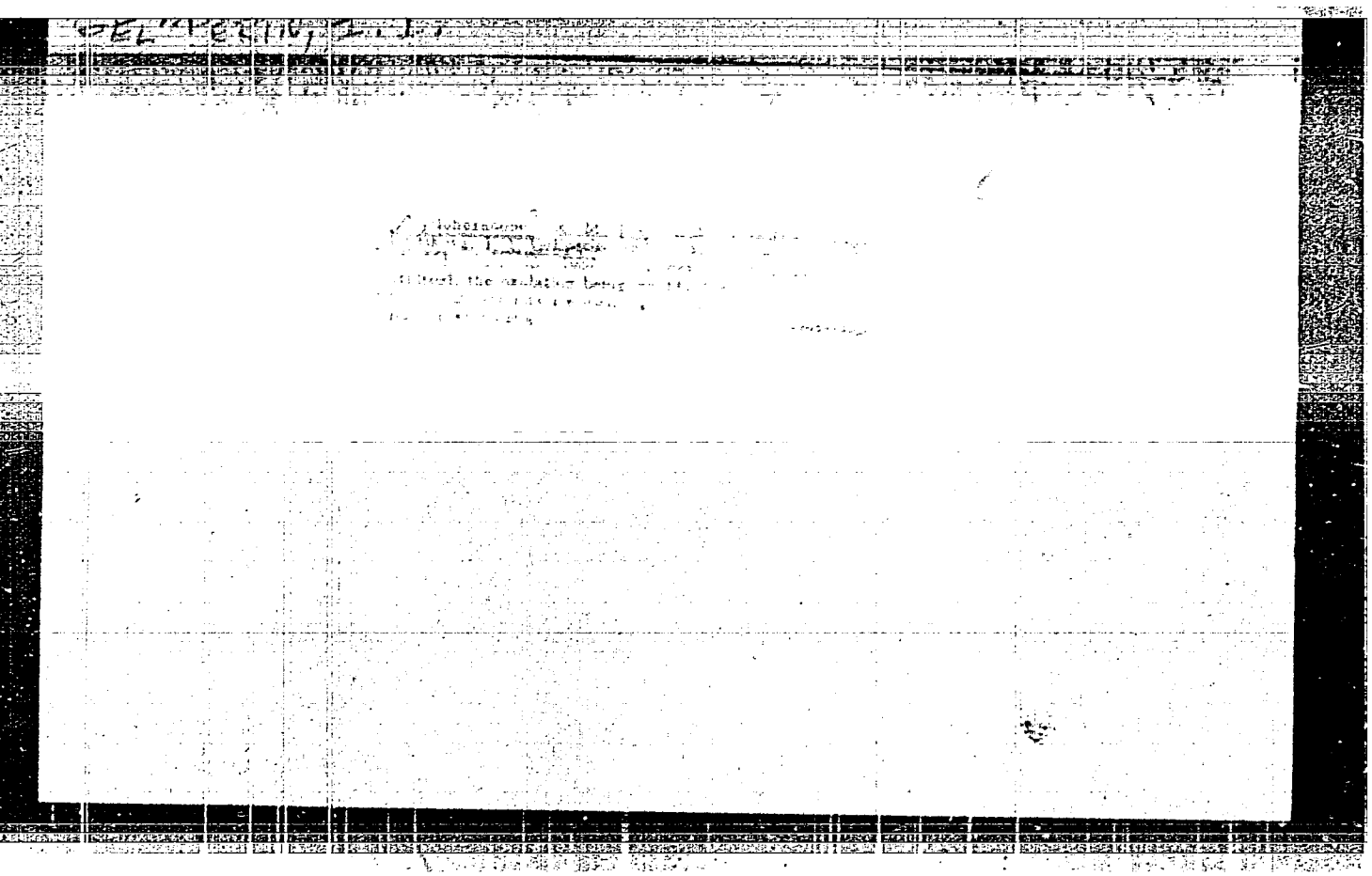

GEL'PERIN, I.I., kandidat tekhnicheskikh nauk; MINSKER, K.S.; PLOTKIN, Ye.R.

Using heat-elimination surfaces for controlling temperature in the zone of catalysis. Khim. nauka i prom. 2 no.2:233-237 '57.
(Catalysis) (Heat--Transmission) (MLRA 10:6)

GEL'PERIN, I.I., kand. tekhn.nauk; RAPOPORT, L.L., kand. tekhn. nauk

Special characteristics of the calculation for the removal of carbon monoxide with liquid nitrogen. Trudy GIAP no.8:213-218 '57. (MIRA 12:9)

(Carbon monoxide) (Nitrogen) (Gas--Purification)

Gel'perin, I.I.

57-9-29/40

AUTHOR: Gel'perin, I.I., Minsker, K.S.

TITLE: Determination of the Heat Exchange Surface if the Final Difference of Temperature Between the Heat Carrier and One of the Cooling Agents is Equal to Zero
(Opredeleniye poverkhnosti teploobmena v sluchaye, kogda konechnaya raznost' temperatur teplonositelya i odnogo iz khladoagentov ravna nulyu)

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 9, pp. 2143 - 2148 (USSR)

ABSTRACT: The method described here makes it possible to determine the necessary heat exchange surface without having to ascertain the average logarithmic temperature drop. Countercurrent- and direct current heat exchange processes are investigated for the case that the final temperature drop between the heat carrier and one of the cooling agents is equal to zero. Equations are derived with the aid of which it is possible to determine the necessary length of heat exchange tubes without having to use the basic equation of heat exchange $Q = kF\Delta t$, which is not applicable to the present case. The equations derived here make it possible to determine the intermediary temperatures and the amount of emitted heat corresponding to these temperatures at every

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57-9-29/40

Determination of the Heat Exchange Surface if the Final Difference of Temperatures Between the Heat Carrier and One of the Cooling Agents is Equal to Zero

part of the system with equal ease. A complete example is computed. There are 4 figures and 2 Slavic references.

SUBMITTED: February 20, 1957

AVAILABLE: Library of Congress

Card 2/2

PHASE I BOOK EXPLOITATION SOV/5604

Atroshchenko, Vasiliy Ivanovich, Iosif Il'ich Gel'perin, Anatoliy Petrovich Zasorin, Viktor Ivanovich Konvisar, Antonina Yakovlevna Kraynyaya, Agnessa Grigor'yevna Leybush, and Anism Rudol'fovich Yastrebenetskiy

Metody raschetov po tekhnologii svyazannogo azota (Computational Methods in the Technology of Combined Nitrogen) Khar'kov, Izd-vo Khar'kovskogo univ., 1960. 302 p. 5,000 copies printed.

Ed. (Title page): V.I. Atroshchenko; Ed.: D.A.Vaynberg; Tech. Ed.: V.S. Zadorozhnyy.

PURPOSE: This textbook is intended for graduate students in chemical technology institutes, and may also be used by engineering and technical personnel of the chemical industry.

COVERAGE: The book describes computational methods used in the industrial production of hydrogen, nitrogen, synthetic ammonia, urea, nitric acid, and methanol. Problems in the refining of natural gas are also reviewed. The computations involve material and heat balances and the determination of

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dimensions of equipment and its design, based on equations of chemical reactions and thermodynamic computations of possible yields or reaction rates per se. Equations and formulas for determining reaction rates are also given. Plant outputs, flow sheets, and technical characteristics are included. The supplement includes an equilibrium state (vapor phase) diagram of a nitrogen-oxygen system; entropy diagrams for ammonia, air, nitrogen, and oxygen; graphs of heat capacity, viscosity, and heat conductance vs. temperature (0 - 350° C) for nitrogen-hydrogen-ammonia mixtures at P = 300 atm; a viscosity vs. percentage composition graph of CO + H_2 mixture at 50 - 400° C; diagrams of CH_4, CO_2, CO, N_2, and H_2 solubility in CH_3OH at 300 atm and 25° C; a compressibility coefficient vs. temperature (25 - 250° C) graph of CO + 2 H_2 mixtures at 250 and 300 atm; a nomogram of physical constants; enthalpy vs. temperature diagrams for alcohols, olefins and methanol; and tables of rate constants, partial pressures, heat contents of solutions, viscosities of gases, average molecular heat capacities of various gases and vapors at different pressures, rate constants of the oxidation of nitric oxide by oxygen at different temperatures, etc. The authors are affiliated with the Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina (Khar'kov Polytechnic Institut imeni V.I. Lenin) and the Gosudarstvennyy institut azotnoy

promyshlennosti i produktov organicheskogo sinteza (State Institute for the Nitrogen Industry and Products of Organic Synthesis). The Introduction and Chs. V, X, and XI were written by V.I. Atroshchenko; Ch. I, by A.G. Leybush; Chs. II, III, VI, and VII, by A.R. Yastrebenetskiy; Ch. IV, by I.I. Gel'perin; Chs. VIII and XIV, by V.I. Konvisar; Chs. IX and XIII, by A.P. Zasorin; and Ch. XII, by A. Ya. Kraynyaya. No personalities are mentioned. References, mainly Soviet, accompany individual chapters.

TABLE OF CONTENTS:

GEL'PERIN, I.I., kand.tekhn.nauk; DARYUSIN, A.P., kand.tekhn.nauk

Prevention of explosions in apparatus for the separation of coke gas by the method of deep cooling. Khur. VKHO 7 no.6:661-666 '62. (MIRA 15:12)

(Coke-oven gas)
(Combustion, Spontaneous)

S/064/63/000/002/004/005
B117/B186

AUTHORS: Gel'perin, I. I., Kagan, A. M.

TITLE: Effect of thermal conductivity of granular substances on the heat exchange of the gases passing through these substances

PERIODICAL: Khimicheskaya promyshlennost', no. 2, 1963, 52 - 55

TEXT: The heat transfer of granular substances was studied on the gases passing through them in a U-shaped tube, of 12 mm diameter, heated with boiling water. 8 Fractions of granular substances having different thermal conductivities were used. Packings of these substances were filled into the tube in a section 408 mm long. The mass flow rate of the air was varied from 0.6 to 7.3 kg/cm^2·sec during the experiments. The air temperature at the inlet and the outlet of the tube was measured by copper-constantan thermocouples with a special device for averaging the temperature of the air current. The temperature of the tube walls was measured with five thermocouples fitted into them. The mean temperature difference between gas and tube wall was determined by a planimeter from the area bounded by the temperature curves. The accuracy of the experiments was guaranteed by the fact that the heat transfer coefficient was not influenced

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by other variable factors (achieved through same size and shape of grains). The heat transfer coefficient was not found to be influenced considerably by the thermal conductivity of the material. This is explained by the thermal resistance of the boundary layer on the tube wall being higher than the resistance of heat transfer from the core to the wall. When the granular layer of the material is heated without gas current it was found that only the length of the period until stationary conditions set in is influenced by the thermal conductivity and the thermal capacity of the granular material. There are 4 figures and 3 tables.

GEL'PERIN, I.I.; KAGAN, A.M.

Effect of the heat conductivity of granular materials on the heat transfer in gases passing through them. Khim. prom. no.2:132-135 F '63. (MIRA 16:7)

(Granular materials—Thermal properties)
(Gases) (Heat—Transmission)

KAGAN, A.M.; GEL'PERIN, I.I.

Effect of the thermophysical properties of gases on their heat transfer in the presence of granular materials. Khim. prom. no.8:620-622 Ag '63. (MIRA 16:12)

GEL'PERIN, I.I.; KAGAN, A.M.

Direction of the heat flow and its effect on the heat transfer of gases in packed tubes. Khim.prom. no.11:859-865 '63.
(MIRA 17:4)

KAGAN, A.M.; GEL'PERIN, I.I.

Stabilization of the process of heat transfer in packed tubes. Zhur. VKHO 9 no. 2:233-234 '64. (MIRA 17:9)

1. Gosudarstvennyy institut azotnoy promyshlennosti.

GEL'PERIN, I.I.; KALININA, S.Ye.; RAPOPORT, L.L.

Production of heavy water from a nitrogen-hydrogen mixture.
Khim. prom. no.6:475-479 Je '64. (MIRA 18:7)

L 18381-65 EWG(j)/EWT(m)/EPF(c)/EPR/EWP(t)/EWP(b) Pr-4/Ps-4/Pb-4 IJP(c) JD
ACCESSION NR: AP5003110 S/0063/64/009/003/0289/0299

AUTHOR: Gol'terin, I. I. (Candidate of technical sciences); Daryusin, A. P. (Candidate of technical sciences) B

TITLE: Contamination of hydrocarbon conversion gases by nitrogen oxides and their danger of scrubbing carbon monoxide with liquid nitrogen 27

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 9, no. 3, 1964, 289-299

TOPIC TAGS: carbon monoxide, liquid nitrogen, nitrogen oxide, hydrocarbon, chemical reaction

Abstract: Scrubbing carbon monoxide with liquid nitrogen permits the production of a nitrogen-hydrogen mixture of high purity, not containing appreciable amounts of catalytic poisons and contaminants for ammonia synthesis. However, in 1961, reports were published of explosions of low-temperature blocks in which converted gas was scrubbed with nitrogen in Holland, Japan, and the US. The main reason for these explosions was believed to be complexes which were formed as the result of the low temperature interaction of nitrogen oxides with reactive organic micro-impirities present in the converted gas and accumulating in the low-temperature block apparatus. It must be noted that despite limited information on the exact reactions involved, several

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restrictions are established experimentally and greater operating safety can be achieved by: a) having a minimum of accumulated nitrogen oxides in the low-temperature block after the run, as calculated from the amount of nitrogen oxide entering the block from the separated gases; b) maintaining a maximum permissible nitrogen oxide content in the gas to be separated; c) strictly regulation of brief, extended and total shutdown of the low-temperature block after heating and scrubbing. Orig. art. has 1 figure, 11 graphs, 10 tables.
ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: FP, GC

NO REF SOV: 003 OTHER: 009 JPRS

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GEL'PERIN, I.I.; KAGAN, A.M.

Heat emission from boiling water at small thermal loads. Khim.prom. 40 no.8:616-619 Ag '64. (MIRA 18:4)

ZAREMBO, G.V., inzh.; GEL'PERIN, L.A., inzh.

Redesigned MP-21 press. Másl.-zhir. prom. 28 no.10:29-31 O '62.
(MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov.

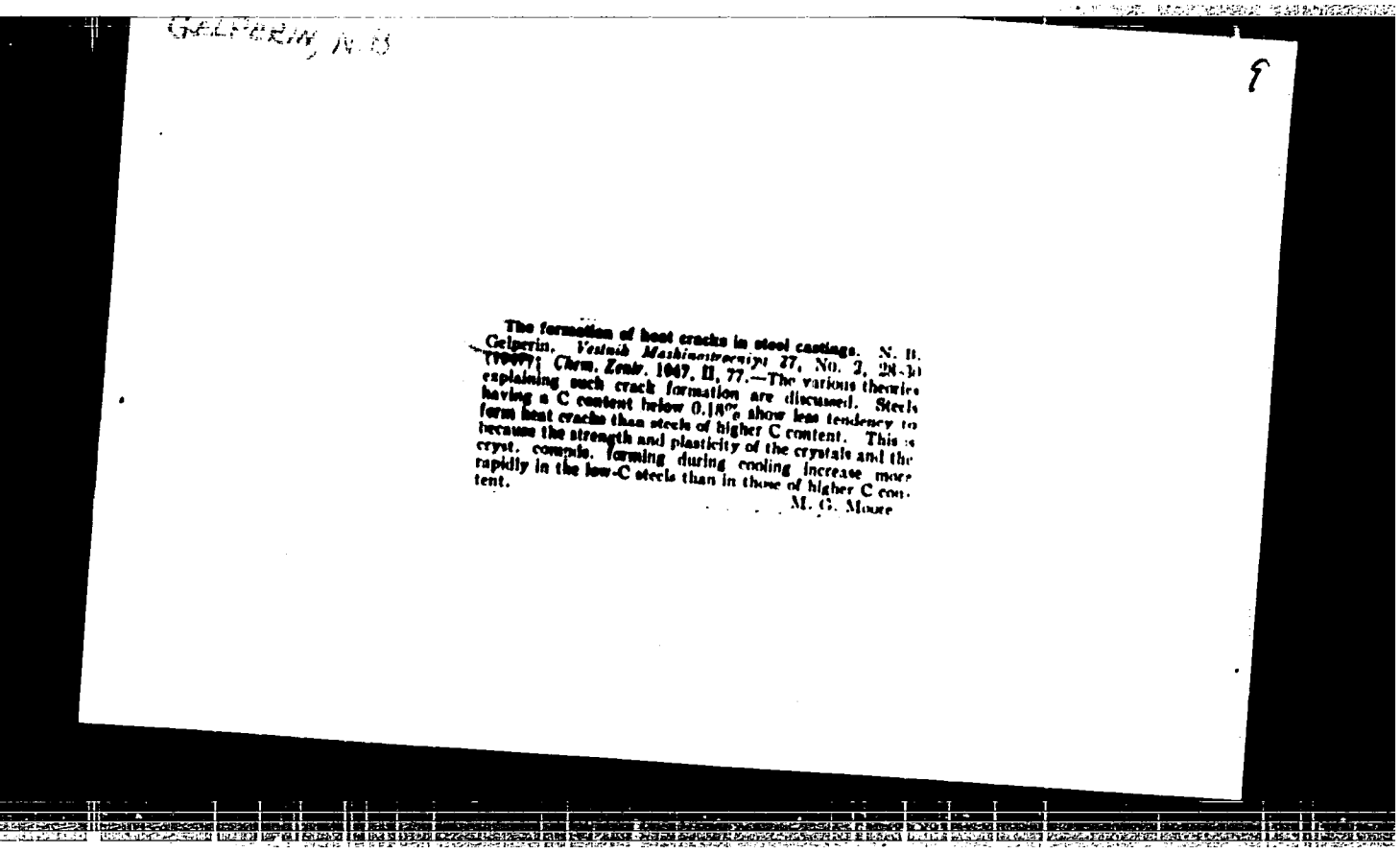
GEL'PERIN, M.

Civil law and the supply of materials and equipment. Vop. ekon. no.10:66-70 '60. (MIRA 13:9)
(Delivery of goods (Law))

GEL'PERIN N.B.

LIVSHITS, Mikhail Naftol'yevich; BALABANOV, Ye.M., doktor fiziko-matematicheskikh nauk, nauchnyy redaktor; GEL'PERIN, N.B., kandidat tekhnicheskikh nauk, nauchnyy redaktor; GIMPEL'SON, A.Z., redaktor; GLADKIKH, N.N., tekhnicheskiy redaktor

[Electric methods of painting, enameling and glazing] Elektricheskie metody okraski, emalirovaniia i glazurovaniia izdelii. Moskva, Gos. izd-vo lit-ry po stroit. materialam. 1956. 111 p. (MLRA 10:3)
(Spray painting) (Enamel and enameling) (Glazing)



GELPERIN, N. I.

5

The formation of heat cracks in steel castings. N. I. Gelperin. *Vestnik Mashinostroeniya* 27, No. 2, 28-31 (1947); *Chem. Zentr.* 1947, II, 77.—The various theories explaining such crack formation are discussed. Steels having a C content below 0.18% show less tendency to form heat cracks than steels of higher C content. This is because the strength and plasticity of the crystals and the cryst. complex, forming during cooling increase more rapidly in the low-C steels than in those of higher C content.

M. G. Moore

OBL'PERIN, N.B.

Solidification and modification of cast iron. Lit. proizv. no.1:20-21 Ja '58. (MIRA 11:2)

(Iron founding)

18(5), 25(5)

AUTHOR: Gel'perin, N.B., Candidate of Technical Sciences SOV/128-59-4-9/27

TITLE: Improved Technology in Producing Cast Crankshafts

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 4, pp 16-19 (USSR)

ABSTRACT: By replacing the forged crankshafts of combustion motors by cast crankshafts, a considerable amount of metal and labor is saved. The crankshafts are cast of carbonized, graphitic, and alloyed steel, of alloyed grey iron, of cast iron containing magnesium, or even of malleable cast iron. It is very important to select the materials to be used for crankshafts which are exposed to great strain as in tractor and combine motors. Plasticity and toughness of the material in this case are of secondary importance. It is essential to know the point at which the material starts tiring. Cast iron containing magnesium proved to be the perfect material. Its surface hardness assures the required wear resistance of the trunnions. Producing castings from magnesium cast iron, the technology in regard to structure and qualities

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was not certain. A parallel production of crankshafts from malleable cast iron was therefore necessary. At the present time, the production of crankshafts from magnesium cast iron is being organized in the "Serp i molot" (Hammer and Sickle) works. Provisions for production from malleable cast iron have also been made. The original construction of the crankshafts was totally non-technological. It was improved later on, but not all defects could be removed. A technologically better design resembling the crankshaft in form and dimensions was created for the D motor DW-30 (Figure 1). The following part of the article discusses molds, molding compounds, production and composition of the magnesium cast iron, removal of inclusions, and the melting aggregate consisting of a cupola with blast heater and heated forehearth. There are 6 diagrams and 2 photographs.